

CLAIMS

1. A method for performing a search excursion from an original frequency
2 on a wideband code division multiple access (WCDMA) system to a target
frequency, comprising:
4 decoding at least one radio frame in a Transmission Time Interval (TTI)
on the original frequency;
6 extracting a parameter value from the at least one radio frame and
storing the parameter value in a memory element;
8 tuning to a target frequency after storing the parameter value;
tuning to the original frequency; and
10 decoding a subsequently received radio frame in the TTI by using the
stored parameter value.
2. The method of Claim 1, wherein the target frequency is on a WCDMA
2 system.
3. The method of Claim 1, wherein the target frequency is on a non-
2 WCDMA system.
4. A method for timing a search excursion performed by a mobile station
2 operating in a spread spectrum communications system, comprising:
detecting a first radio frame of a Transmission Time Interval (TTI) on an
4 original frequency;
extracting a plurality of indicator bits from the first radio frame;
6 storing the plurality of indicator bits;
performing the search excursion on a target frequency, wherein the
8 search excursion ends with a return to the original frequency; and

10 decoding a subsequent radio frame of the TTI using the stored plurality
of indicator bits from the first radio frame.

5. The method of Claim 4, wherein the first radio frame is 10 ms in
2 duration.

6. The method of Claim 5, wherein performing the search excursion on the
2 target frequency comprises tuning the mobile station to the target frequency,
whereupon the mobile station collects and stores signal samples from the target
4 frequency.

7. The method of Claim 6, wherein the method for timing the search
2 excursion further comprises increasing the amount of power allocated to the
subsequent radio frame of the TTI.

8. The method of Claim 6, wherein the method for timing the search
2 excursion further comprises increasing the amount of power allocated to the
first radio frame of the TTI.

9. An apparatus for performing a timed search excursion in a wireless
2 communication system, comprising:

4 at least one memory element; and
a processor configured to execute a set of instructions stored on the at
least one memory element, the set of instructions for:

6 decoding at least one radio frame in a Transmission Time Interval
(TTI) on the original frequency;

8 extracting a parameter value from the at least one radio frame and
storing the parameter value in the at least one memory element;

10 controlling a search excursion to a target frequency after storing
the parameter value, wherein the search excursion ends with a return to
12 the original frequency; and

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14 decoding a subsequently received radio frame by using the stored
parameter value.

10. An apparatus for performing a timed search excursion in a wireless
2 communication system, comprising:

4 means for decoding at least one radio frame in a Transmission Time
Interval (TTI) on the original frequency;

6 means for extracting a parameter value from the at least one radio frame
and storing the parameter value in at least one memory element;

8 means for performing a frequency search on a target frequency and
returning to the original frequency, whereupon the means for decoding the at
least one radio frame further decodes a subsequently received radio frame by
10 using the stored parameter value.

11. An apparatus for performing a search excursion in a wireless
2 communication system, comprising:

4 a decoder for decoding a plurality of radio frames in a Transmission
Time Interval (TTI) on a first frequency and a plurality of radio frames in a TTI
on a second frequency; and

6 a processor configured to extract an index from the first radio frame of
the plurality of radio frames, wherein the index is related to a set of
8 transmission properties, to store the index in a memory element, to control the
search excursion onto the second frequency, and to control a return to the first
10 frequency, whereupon the decoder uses the index to decode a subsequently
received portion of the plurality of radio frames in the TTI on the first
12 frequency.

12. The apparatus of Claim 11, wherein the processor is further configured
2 to ignore a power control command from a base station in order to implement
an increase in a downlink transmission power level before performing the
4 search excursion.

13. The apparatus of Claim 11, wherein the processor is further configured
2 to ignore a power control command from a base station in order to implement
an increase in a downlink transmission power level after performing the search
4 excursion.

14. A method for timing a frequency search excursion in a wireless
2 communications system having a mobile station exchanging communications
with a base station, the method comprising:

4 determining at least one transmission parameter value from the first
radio frame of the plurality of associated radio frames and storing the at least
6 one transmission parameter value;

tuning the mobile station to the target frequency, whereupon the mobile
8 station collects and stores signal samples from the target frequency;

tuning the mobile station to the original frequency;
10 processing the stored samples from the target frequency to obtain a
result;

12 transmitting the result from processing the stored samples to the base
station;

14 increasing the amount of power allocated to subsequently received radio
frames of the plurality of associated radio frames; and

16 decoding the subsequently received frame symbols using the stored
transmission parameter value.

15. The method of Claim 14 further comprising the step of keeping the
2 transmission energy of a pilot channel equal to the transmission energy of the
pilot channel prior to said frequency search excursion.

16. The method of Claim 14 further comprising the steps of:

2 determining whether said mobile station is capable of increasing the
transmission power of said information channels to the desired extent; and

selectively increasing the transmission power of said information channels when said mobile station is not capable of increasing the transmission power of said information channels to the desired extent.

17. The method of Claim 16, wherein selectively increasing the transmission
2 power of said information channels, comprises the steps of:
ranking the channels in accordance with the importance of having a non-
4 interrupted reverse link transmission; and
adjusting the transmission energies of said information channels in
6 accordance with said ranking.

18. The method of Claim 17 wherein said information channels comprise a
2 traffic channel and a common access channel.